Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Occidental Chemical Corp
Taft Cogeneration Plant
Hahnville, St. Charles Parish, Louisiana
Agency Interest Number: 1137
Activity Number: PER20090011
Proposed Permit Number: 2598-V2

I. APPLICANT

Company:
Occidental Chemical Corp – Taft Cogeneration Plant
266 Hwy 3142
Hahnville, Louisiana 70057

Facility:
Taft Cogeneration Plant
266 Hwy 3142
Hahnville, St. Charles Parish, Louisiana
Approximate geographic coordinates: 29° 59' 14" North, 90° 27' 17" West

II. FACILITY AND CURRENT PERMIT STATUS

The facility utilizes three 170 MW (nominally rated) GE gas turbines which are fired with natural gas to drive electrical generators. Hot exhaust gases from each turbine is routed to a 355 MM BTU/hr duct burner, which can be fired with either hydrogen from the Chlor-Alkali Facility and/or natural gas. Heat from each turbine/duct burner flue gases is recovered in a heat recovery steam generator (HRSG). Steam from three HRSG is used to drive a 325 MW steam turbine. A small portion of the flue gas and steam is routed to the carbonation tower where carbon dioxide in the flue gas reacts with chlor-alkali cell liquor from the Chlor-Alkali Facility to produce sodium carbonate solution.

Taft Cogeneration Plant is a designated Part 70 source. Several Part 70 permits have been issued to the operating units within the complex. These include:

Permit No.	Unit or Source	Date Issued
2520-00007-V4	Chlor-Alkali Facility	10-1-08
PSD-LA-633(M-1)	Taft Cogeneration Plant	2-18-05
2598-IV1	Taft Cogeneration Plant	8-18-06
3074-V0	Chlor-Alkali Facility	5-18-09

Occidental Chemical Corp
Taft Cogeneration Plant
Hahnville, St. Charles Parish, Louisiana
Agency Interest Number: 1137

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application and Emission Inventory Questionnaire were submitted by Occidental Chemical Corp on August 12, 2009, requesting a Part 70 operating permit renewal. Additional information dated September 15, 2009, was also received.

Project

With the renewal and modification, Occidental Chemical Corp proposes to:

- Incorporate stack test results for the Carbonation Tower (EQT 6) into the permit;
- Update the stack test parameters for the Combined Cycle Units (PCS 1, PCS 2, & PCS 3)
- Revise emissions based on updated emission factors; and
- Update startup and shutdown emissions for the Combined Cycle Units (PCS 1, PCS 2, & PCS 3).

Proposed Permit

Permit 2598-V2 will be the Part 70 operating permit renewal/modification for the Taft Cogeneration Plant.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	308.37	312.58	+ 4.21
SO_2	17.67	17.68	+ 0.01
NO_X	1463.14	1463.14	-
CO	1817.63	1817.63	-
VOC *	98.46	98.58	+ 0.12

LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Formaldehyde*	5.92	5.94	+ 0.02
Chlorine	0.26	0.12	- 0.14
Sulfuric Acid	1.77	1.78	+ 0.01
Total	7.95	7.84	- 0.11

Occidental Chemical Corp
Taft Cogeneration Plant
Hahnville, St. Charles Parish, Louisiana
Agency Interest Number: 1137

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

On June 10, 2002, the Taft Cogeneration Plant submitted a unit-specific monitoring plan that stated the manner in which they intended to install the various monitoring equipment for each of the Duct Burners (EQTs 8-10) as required by 40 CFR 49Da(s). This requirement has been removed from the permit for each of these sources because it has been satisfied.

Applicability and Exemptions of Selected Subject Items

ID No:	Requirement	Notes
UNF 1	Comprehensive Toxic Air Pollutant Emission Control Program [LAC 33:III.5105.B.2]	DOES NOT APPLY. Unit is not a major source of Toxic Air Pollutants. [LAC 33:III.5101.A]
	Chemical Accident Prevention and Minimization of Consequences [LAC 33:III.5901]	DOES NOT APPLY. The Taft Cogeneration Plant contains no sources which produce, handle, process, or store substances listed in LAC 5907.A Table A in quantities greater than the listed threshold. The Chlor-Alkali Plant, which is a contiguous site under common control, does store these chemicals and compliance with these requirements is demonstrated under its permit. [LAC 33:III.5901.A]
	Compliance Assurance Monitoring [40 Part 64.2(b)(1)(iii)]	EXEMPT. The Taft Cogeneration Plant is subject to Acid Rain requirements. [40 CFR 64.2(b)(iii)]
	Chemical Accident Prevention Provisions [40 CFR 68]	DOES NOT APPLY. The Taft Cogeneration Plant contains no sources which produce, handle, process, or store substances listed in 40 CFR 68.130 in quantities greater than the listed threshold. The Chlor-Alkali Plant, which is a contiguous site under common control, does store these chemicals and compliance with these requirements is demonstrated under its permit.
EQT 3 EQT 4 EQT 5	NESHAP Subpart YYYY - National Emission Standard for Hazardous Air Pollutants for Stationary Combustion Turbines	DOES NOT APPLY. Turbines are not located at a major source of HAPs. [40 CFR 63.6080]

Occidental Chemical Corp
Taft Cogeneration Plant
Hahnville, St. Charles Parish, Louisiana
Agency Interest Number: 1137

ID No:	Requirement	Notes
EQT 7	NESHAP Subpart Q – National Emission Standards for Hazardous Air Pollutants for Industrial Cooling Towers [40 CFR 63.400(a)]	DOES NOT APPLY. The Taft Cogeneration Plant does not use chromium based water treatment chemicals in the cooling water or cooling tower.
EQT 8 EQT 9 EQT 10	NSPS Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978	APPLIES. Sources are subject to NOx standards, but are not subject to PM_{10} or SO_2 standards. Natural gas is not defined as a solid, liquid, or gaseous fuel. PM_{10} and SO_2 standards only apply to the combustion of solid, liquid, or gaseous fuels.

Prevention of Significant Deterioration/Nonattainment Review

Permit No. PSD-LA-633(M-2) authorizes maximum emission rates of nitrogen oxides and carbon monoxide, in pounds per hour, that apply during startup and shutdown of the three combustion turbines, EQT 3, EQT 4, and EQT 5. Startup and shutdown emissions are not addressed for the three duct burners that are attached to each of the combustion turbines because they are not utilized during startup and shutdown events. All emissions sources at this facility are required to continue to comply with all existing annual emission rates for all pollutants.

With PSD-LA-633(M-2), BACT for emissions of NOx from the gas turbines during periods of startup and shutdown is determined to be no additional controls. The gas turbines are currently equipped with Dry Low NOx burners.

With PSD-LA-633(M-2), BACT for emissions of CO from the gas turbines during periods of startup and shutdown is determined to be good combustion practices.

MACT Requirements

The Occidental Chemical Corp - Taft Cogeneration Plant is contiguous and under common control with the Occidental Chemical Corp – Chlor-Alkali Plant. The Taft Cogeneration Plant, together with the Chlor-Alkali Plant, is not a major source of Toxic Air Pollutants. Therefore, Maximum Achievable Control Technology (MACT) in accordance with LAC 33:III.Chapter 51 does not apply.

Air Quality Analysis

Emissions associated with the proposed modification were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

There is no permit shield.

VI. PERIODIC MONITORING

Periodic Performance Testing Requirements

For the Combined Cycle Units (PCS 1, PCS 2, & PCS 3), the permittee shall conduct a performance test for emissions of carbon monoxide (CO). This test shall be performed within 180 days of the issuance Permit No. 2598-V1 to determine compliance with the CO emission limits of Permit No. 2598-V1. Thirty days prior to the beginning of the performance test, permittee shall notify LDEQ in order to provide the opportunity to conduct a pretest meeting and to observe the emission testing. Sixty days after the performance test, permittee shall submit the test results to LDEQ.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

Occidental Chemical Corp
Taft Cogeneration Plant
Hahnville, St. Charles Parish, Louisiana
Agency Interest Number: 1137

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.